

REMARKS

Applicants thank the Examiner for the thorough consideration given the present application.

Claims 1-14 are now present in this application. Claim 1 is independent.

Claim 1 has been amended and claims 12-14 have been added. Reconsideration of this application, as amended, is respectfully requested.

Interview Summary

The courtesies extended to Applicants' representative during the telephone interview on October 26, 2009 are acknowledged with appreciation. During the interview, the air flow from the air diffusion tubes and one of the support tubes and how it differed from the prior art was discussed.

Double Patenting

The Examiner provisionally rejected claims 1-11 under nonstatutory obvious-type double patenting over claims 1-13 of co-pending Application No. 10/593,480. Applicants will address this rejection upon the indication of allowable subject matter, to assess whether the rejection is applicable at that time.

Rejections under 35 U.S.C. §103

Claims 1-6 and 9-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over US 5,783,083 (Henshaw et al.) in view of US 4,876,006 (Ohkubo et al.) Further, claims 7 and 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Henshaw and Ohkubo et al. and further in view of either Hayano et al. or Brun et al. These rejections are respectfully traversed.

Complete discussions of the Examiner's rejections are set forth in the Office Action, and are not being repeated here.

Initially, Applicants respectfully submit that the Examiner's rejection of claims 1-6 and 9-11 is unclear. The rejection does not make clear how the teachings of the two references are

being combined. There is no statement regarding what Henshaw does not disclose, where Ohkubo et al. discloses the missing limitation and why it would be obvious to combine the teaching of Ohkubo et al. with the teaching of Henshaw. In fact, from a reading of the rejection, it appears as if the Examiner may be rejecting the claims over both references separately. A clearer statement of the rejection is requested if the rejection is to be maintained.

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the instant application, Applicants respectfully submit that independent claim 1 has been amended to recite a combination of elements in a hollow fiber membrane module including first and second module headers, each of the module headers having a filtrate water collecting portion for collecting filtrate water filtered through hollow fiber membranes and a filtrate water outlet, an air diffusion unit between the first and second module headers, the air diffusion unit comprising support tubes and first and second air diffusion tubes having air diffusion holes, and a bundle of hollow fiber membranes having both opposite ends fixed to the insides of the module headers by an adhesive so as to form a water collecting space within the module headers, the ends of the hollow portions of the hollow fiber membranes being opened and disposed in parallel to a filtrate water discharge surface. Each of the support tubes has opposite ends connected to the two module headers respectively thereby keeping the two module headers spaced apart by a predetermined distance, and at least one of the support tubes has a plurality of air diffusion holes. Each of the first and second air diffusion tubes is connected to the support tubes near the first and second module headers, respectively, and disposed in the bundle of hollow fiber membranes. The support tubes and the first and second air diffusion tubes are in fluid communication with one another. The first and second air diffusion tubes eject air in a first direction substantially parallel with a longitudinal direction of the hollow fiber membranes and at least one of the support tubes ejects air in a second direction substantially perpendicular to the longitudinal direction of the hollow fiber membranes.

Applicants respectfully submit that this combination of elements as set forth in independent claim 1 is not disclosed or made obvious by the prior art of record, including Henshaw, Ohkubo et al., Hayano et al. and Brun et al.

Henshaw discloses headers 21, 22 and a single air diffusion pipe 41. Henshaw does not disclose first and second air diffusion tubes ejecting air in a first direction substantially parallel with a longitudinal direction of the hollow fiber membranes and at least one support tube ejecting air in a second direction substantially perpendicular to the longitudinal direction of the hollow fiber membranes.

In the explanation of the rejection, it appears that the Examiner relies upon Ohkubo et al. for the teaching that a system may have plural support tubes with plural air holes. Without conceding the appropriateness of the combination, the disclosure of Ohkubo et al. does not cure the deficiencies of Henshaw in not disclosing first and second air diffusion tubes ejecting air in a first direction substantially parallel with a longitudinal direction of the hollow fiber membranes and at least one support tube ejecting air in a second direction substantially perpendicular to the longitudinal direction of the hollow fiber membranes.

In the rejection of claims 7 and 8, the Examiner relied upon Hayano et al. or Brun et al. for disclosing hollow braided fibers. This disclosure also does not cure the above noted deficiencies of Henshaw.

Applicants respectfully submit that the combination of elements as set forth in independent claim 1 is not disclosed or made obvious by the prior art of record, including Henshaw, Ohkubo et al., Hayano et al. and Brun et al., for the reasons explained above. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

With regard to dependent claims 2-11, Applicants submit that these claims depend, either directly or indirectly, from independent claim 1 which is allowable for the reasons set forth above, and therefore claim 2-11 are allowable. In addition, these claims recite further limitations which are not disclosed or made obvious by the applied prior art references. Reconsideration and allowance thereof are respectfully requested.

New Claims

Claims 12-14 have been added for the Examiner's consideration. Applicants submit that claims 12-14 depend from independent claim 1, and are therefore allowable based on their dependence from claim 1 which is believed to be allowable.

In addition, claims 12-14 recite further limitations which are not disclosed or made obvious by the applied prior art references.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone Chris McDonald, Registration No. 41,533, at (703) 205-8000, in the Washington, D.C. area.

Prompt and favorable consideration of this Amendment is respectfully requested.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

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Respectfully submitted,

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